

Notice of Allowability

Application N .

10/031,977

Examiner

Dalena Tran

Applicant(s)

FRANKE ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/15/04.
2. ☒ The allowed claim(s) is/are 6-23(now renumbered as 1-18).
3. ☒ The drawings filed on 09 September 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

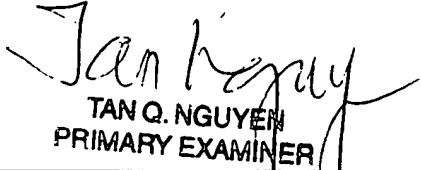
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |


TAN Q. NGUYEN
PRIMARY EXAMINER

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

1. This communication is an Examiner's reasons for allowance in response to application filed on 9/9/2002, assigned serial 10/031977 and title "Method For Power Optimization In A Vehicle / Train Having A Number Of Drive Systems".

2. The following is the Examiner's statement of reasons for the indication of allowable subject matter:

After carefully reviewing the application in light of the amended claims and the additional search of all the possible areas relevant to the present application, a set of related prior art references has been found, but those prior art references are not deemed strong to make the application unpatentable. Thus, it is found that the application is now in condition for allowance.

Although the references found disclose several claimed limitations, none of the references discloses a method for power optimization for a rail vehicle traveling over a route according to a schedule which includes a time reserve, the rail vehicle comprising a plurality of completely or partially autonomous drive system, the method comprising: determining efficiency of each identified autonomous drive system; and determining a power-saving travel mode for the rail vehicle using an optimization algorithm in which the efficiency of the identified autonomous drive system is taken into consideration (claim 6); also, none of the references found, combining the functions of efficiency of each identified autonomous drive system to form a representative function of efficiency for the rail vehicle; and determining efficiency on the basis of the representative function of efficiency and a number of autonomous drive systems in the optimization algorithm (claim 10); determining an on / off state for each autonomous drive system and wherein the efficiency of the identified autonomous drive systems and their

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respective on / off state is taken into consideration in the optimization algorithm to determine a power saving mode; wherein autonomous drive systems are identified by taking boundary conditions into account, the boundary conditions consisting of one or more conditions taken from the group comprising expected tractive force, expected braking force, adhesion coefficients, temperature, and influence in the drive dynamics (claims 11-12). None of the references found, determining power loss of each identified autonomous drive system; and determining a power saving travel mode for the rail vehicle using an optimization algorithm in which the power loss of the identified autonomous drive system is taken into consideration (claim 14); combining the functions of power loss of each identified autonomous drive system to form a representative function of power loss for the rail vehicle; and determining power loss on the basis of the representative function of power loss and the number of autonomous drive systems in the optimization algorithm (claim 18).

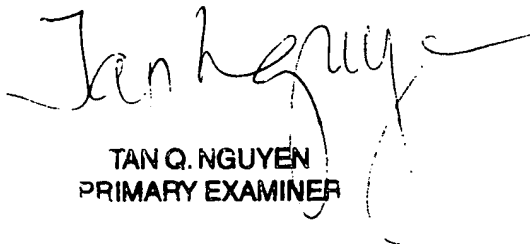
Claims 6-23, are allowable over the prior art of record.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 703-308-8223. The examiner can normally be reached on M-F (7:30 AM-5:30 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TAN Q. NGUYEN
PRIMARY EXAMINER

/dt
May 25, 2004